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A new species of *Hockeria* Walker (Hymenoptera: Chalcididae), parasitic in two gall-inciting Lepidoptera from the Namib desert, South West Africa.

by

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A new species of Chalcididae, *Hockeria gallicola*, is described from the central Namib desert in South West Africa. The new species is a pupal parasitoid of two gelechiid moths, *Grandipalpa robusta* Janse and *Acutitornis* sp., which are both gall-inciting species on the grasses *Stipagrostis sabulicola* and *S. namaquensis*.

The central Namib desert in South West Africa, and especially the vast dune sea south of the seasonally dry Kuiseb river, harbours a highly specialized insect fauna dominated by tenebrionid beetles, which are one of the few groups from this desolate area that have been studied extensively. Until some five years ago nothing was known about the parasitic wasp fauna of this interesting ecosystem, but recent collecting in the area by the author has revealed an abundant and diverse fauna of chalcidoid and proctotrupoid wasps, the majority of which are new to science. In addition, six species of Chalcidoidea were recently reared from lepidopterous (Gelechiidae) stem galls on two species of *Stipagrostis* grasses (Poaceae) growing on the sand dune of the central Namib in the vicinity of Gobabeb (23° 34′ S, 15° 03′ E). This material was collected by Mr L. Praetorius, formerly from the Desert Ecological Research Unit at Gobabeb, during his studies on the insects associated with these galls. One of the chalcidoids, *Hockeria gallicola,* is here described as new. It is interesting to note that the new species appears to be most closely related to *H. tamaricis* Bouček which is parasitic in a gall-inciting gelechiid found on tamarisk in the Sinai desert, Israel, Saudi-Arabia and Pakistan, as discussed below.

The six mentioned chalcidoid species were all reared from galls on *Stipagrostis sabulicola* and *S. namaquensis* caused by two gelechiid moths, *Grandipalpa robusta* Janse and an undetermined species of *Acutitornis*. Apart from *Hockeria gallicola,* which Mr Praetorius (personal communication) has shown to be a solitary larval-pupal endoparasitoid of the two gelechiids, the remaining chalcidoids include: two species of *Tetrastichus* Haliday (Eulophidae) and one species each of the genera *Norbanus* Walker (Pteromalidae), *Eurytoma* Illiger (Eurytomidae) and *Macroneura* Walker (Eupelmidae). The specific status of these species has not yet been determined.

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Hockeria Walker

This poorly known genus is represented in the Afrotropical region by some twelve described species (Bouček 1974), most of which are known only from their original descriptions. Of these, four are known from southern Africa in addition to numerous undescribed species, many of which are at hand. One of these, *H. gallicola* sp. nov., is represented by the material recently obtained from the Namib desert mentioned above. This species is not closely related to any of the described African species and differs from them in structure to such an extent that I was uncertain about its placement in the genus *Hockeria*. Specimens were submitted to Dr Z. Bouček, Commonwealth Institute of Entomology, London, who kindly drew my attention to the relationship of the Namib species to *Hockeria tamaricis* which he had recently described from south-western Asia (Bouček 1982). Both these species are primary pupal parasitoids of gall-inciting gelechiid moths in arid regions and are generally structurally related. *H. gallicola,* however, differs from *H. tamaricis* in a number of characters of which the maculation of the fore wing in the female and the densely punctate and setose mesoscutum are perhaps the most obvious. The new species is also separated by a number of other characters, including those of the head and mandibles, antenna and propodeum, as described below.

Hockeria gallicola sp nov., Figs 1–7

FEMALE Length: 7–8,5 mm. Colour: head, thorax and propedeum black, shiny, pilosity silvery; gaster, in most specimens, reddish-brown except for tergite VI and epipygium which are black or with blackish suffusions; in some specimens the preceding two tergites are also suffused with blackish; antenna black, fading at apex; legs black, except extreme distal ends of tibiae, and tarsi entirely, which are reddish-brown; fore wing with distal half or so moderately and somewhat unevenly infuscated with a large, subhyaline patch below apex of venation, as shown in fig. 1; hind wing hyaline.

Head, in dorsal view, about 4 × as broad as its median length, the latter measured from upper limits of scrobes; ocelli in a strongly obtuse-angled triangle, postocellar length about 3 × ocell-ocular length, latter subequal to diameter of a lateral ocellus. Head, in facial view (Fig. 2) medially about 1,5× as broad as high; scrobes deep, extending upwards to near median ocellus; toruli with upper limits a little below lower eye margins, separated from each other in most specimens by not quite their own diameter, and from clypeal margin by slightly more than their own diameter; interantennal lobe thin, strongly convex, projecting prominently from face; mandible broad, left mandible with two large subequal teeth, right one with three small teeth. Head, seen in profile, with genae weakly convex, delimited posteriorly by a distinct carina extending from mouth margin upwards to meet temples; fronto-genal suture short, indistinct. Antenna (Fig. 6) with distal end of scape reaching to a level near median ocellus, about 6,5–7,0 × as long as broad; pedicel about as long as broad, subequal in length to basal funicle segment; flagellum gradually broadening towards apex, funicle segment I quadrate, II–VI each longer than broad, VII quadrate, VIII in most specimens wider than long. Head regularly and moderately densely pitted, pits fairly large and deep, interspaces narrow, plainly less than one-half diameter of a pit, smooth and polished; scrobal cavity finely rugose; head appearing coarsely and densely setose, each pit giving rise to a strong, curved seta; eyes naked.

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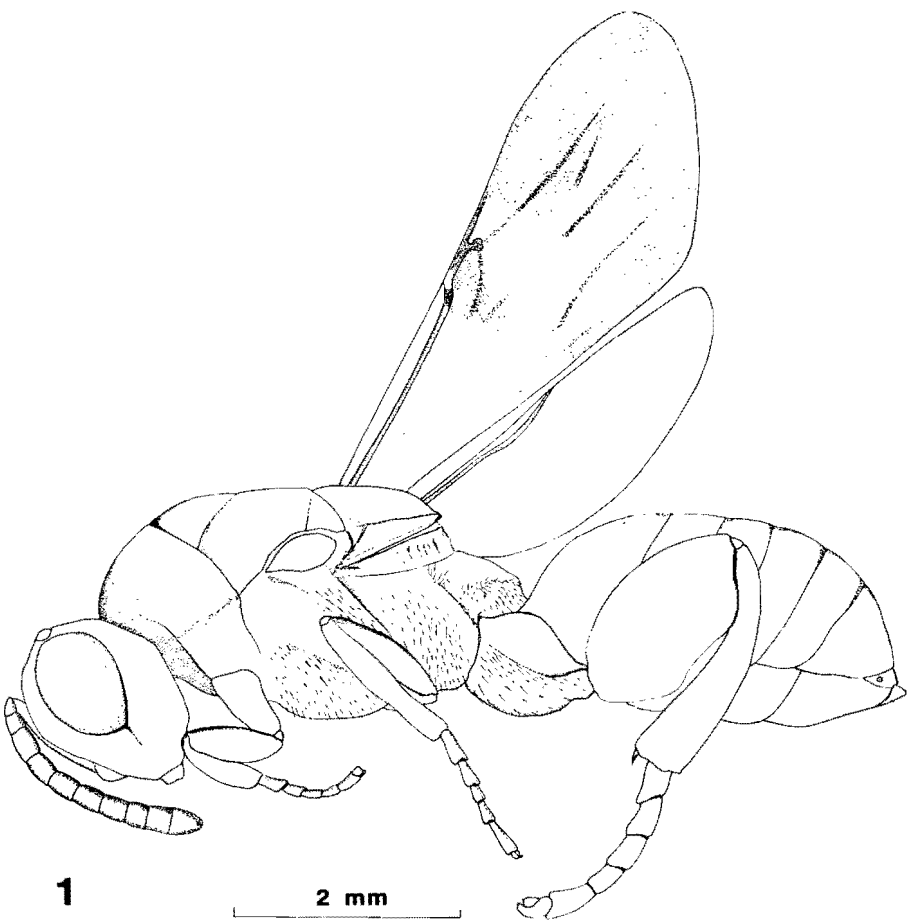

Fig. 1. *Hockeria gallicola* sp. nov., female habitus.

Thorax, in profile (Fig. 1) gently arched dorsally; sculpture and pilosity of pro- and mesonotum much as on head, except that setae are mostly a little longer; proportions of segments as in Fig. 5, mesoscutum about 1,5 × as wide as long, notaular grooves shallow, somewhat obliterated; scutellum about 1,1 × as broad as long, evenly convex, lateral carina emarginate at apex, forming two weakly developed lobes (not teeth as in many other species of the genus); propodeal sculpture somewhat variable, usually as in Fig. 7, i.e. with longitudinal carinae obliterated, especially on anterior half of sclerite. Hind femur in lateral view (Fig. 3), about twice as long as broad, smooth and shiny, without any apparent sculpture, densely and evenly punctate, each punctation giving rise to a long, curved seta; hind femur with two lobes, the distal one larger, each with a comb of fine teeth, as in Fig. 3; hind tibia without an additional external

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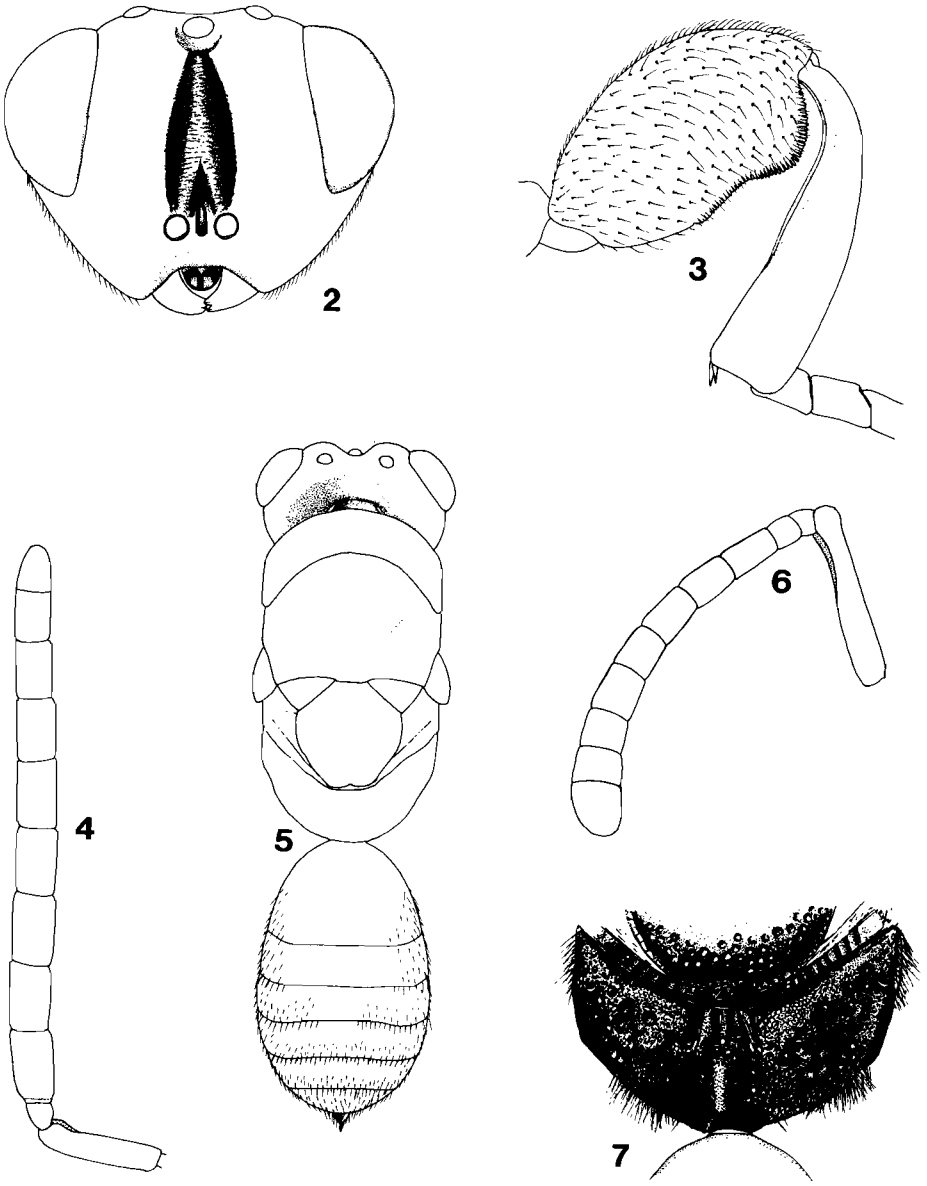

Figs 2–7. *Hockeria gallicola* sp. nov. 2. Head, facial view, female. 3. Hind femur and tibia, lateral view, female. 4. Antenna, male. 5. Head and body, dorsal view, showing setation on gaster, female. 6. Antenna, female. 7. Propodeum and apex of scutellum, showing sculpture, female.

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carina. Fore wing (Fig. 1) with costal cell more or less 6 × as long as marginal vein, the latter not separated from wing margin, about three × as long as short stigmal vein.

Gaster (Fig. 5) about as long as thorax (excluding propodeum), broad, convex, posteriorly somewhat blunt in lateral view, epipygial keel and gonostyli visible in dorsal view; basal tergite, in dorsal view, plainly less than one-half length of gaster, sloping strongly downwards anteriorly to meet propodeum, petiole not visible, hind margin virtually straight; basal tergite largely smooth with fine reticulate sculpture mesally towards hind margin, usually with a few fine setigerous punctations laterally near hind margin; integument of tergites II and III much the same as I, but more extensively punctate, IV and V evenly punctate across their entire width, punctations usually absent along anterior border of tergites; tergite VI entirely punctate, punctations larger and denser than those on preceding tergites, interspaces with a polished appearance; tergite VI medially about 3,5–4,0 × as long as epipygial keel.

MALE. Length: 6,0–6,5 mm. Colour: black, shiny, except tarsi which are brown to reddish-brown, dorsal aspect of hind tarsus unevenly suffused with blackish in some specimens; wings hyaline with a small, very faint infuscation below marginal vein of fore wing.

Structurally much as in female, differing chiefly in antenna and gaster. Antennal shape as in Fig. 4, scape more or less 4,5 as long as broad, flagellum tapering very slightly towards apex, with a small, transverse basal anellus; remaining segments each longer than wide, those of funicle subequal in length. Gaster a little shorter in relation to thorax than in the female, much less convex, broadly rounded apically in dorsal view, more extensively punctate and reticulate than in female.

MATERIAL EXAMINED. Holotype ♀, paratypes 4 ♀ 6 ♂, SOUTH WEST AFRICA: Central Namib desert, 23° 43′ S, 15° 19′ E (Mnizechi vlei, 48 km ESE of Gobabeb), L. Praetorius, v.1981, viii.1982 and x.1982, ex stem galls of *Acutitornis* sp. on *Stipagrostis sabulicola* (National Collection of Insects accession number C 437); paratypes, 2 ♀: same data except 23° 43′ S, 15° 14′ E (Noctivaga, 29 km SE of Gobabeb), i.1982, ex stem galls of *Grandipalpa robusta* Janse (C 438).

Holotype and paratypes (5 ♀ 5 ♂) in National Collection of Insects, Pretoria; other paratypes (1 ♀ 1 ♂) in State Museum, Windhoek, S.W.A.

The following material has not been included in the type-series: 10 ♀ 15 ♂ from the same localities, host and host plants as the types, except that some specimens were reared, in addition, from galls on *Stipagrostis namaquensis*. Some female specimens from this material differ from the types in that the gaster is far more extensively suffused with black, to such an extent that it has an overall blackish appearance, rather than reddish-brown as in the types.

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